



January 6, 2005

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Docket Nos. 50-316

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop O-P1-17
Washington, D. C. 20555-0001

Donald C. Cook Nuclear Plant Unit 2
NUCLEAR REGULATORY COMMISSION BULLETIN 2004-01
INSPECTION OF ALLOY 82/182/600 MATERIALS USED IN THE
FABRICATION OF PRESSURIZER PENETRATIONS AND STEAM SPACE
PIPING CONNECTIONS AT PRESSURIZED-WATER REACTORS
SUPPLEMENTAL RESPONSE

- References: 1. Nuclear Regulatory Commission (NRC) Bulletin 2004-01, "Inspection of Alloy 82/182/600 Materials Used in the Fabrication of Pressurizer Penetrations and Steam Space Piping Connections at Pressurized-Water Reactors," dated May 28, 2004.
2. Letter from Joseph N. Jensen, Indiana Michigan Power Company (I&M) to NRC Document Control Desk, "Donald C. Cook Nuclear Plant Units 1 And 2, Nuclear Regulatory Commission Bulletin 2004-01, Inspection Of Alloy 82/182/600 Materials Used In The Fabrication Of Pressurizer Penetrations And Steam Space Piping Connections At Pressurized-Water Reactors, Sixty-Day Response," letter AEP:NRC:4054-07, dated July 26, 2004.

In Reference 1, the Nuclear Regulatory Commission (NRC) requested that pressurized-water reactor licensees provide a description of their plant's pressurizer penetrations and steam space piping connections, a description of their present pressurizer penetration and steam space piping connection inspection program, a description of the pressurizer penetration and steam space piping connection inspection program that will be implemented during the next and subsequent refueling outages, and a discussion of why the future inspection programs are adequate to assure that the reactor coolant system pressure boundary is maintained and applicable regulatory requirements are met.

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Indiana Michigan Power Company (I&M) provided the information related to the pressurizer connections and the past and future inspections in Reference 2.

The NRC also requested licensees to provide pressurizer nozzle inspection results within 60 days following the completion of the next refueling outage. During the November 2004, Unit 2, Cycle 15 refueling outage, I&M performed the pressurizer nozzle inspections described in Reference 2. The following provides the results of the inspections:

Inspection Performed

Bare-metal Visual VT-2 and liquid penetrant examinations of all pressurizer Alloy 82/182 locations were completed (there are no Alloy 600 materials connected to the pressurizer). These locations are as follows:

- 2-PRZ-21, Spray Valve Nozzle-To-Safe End
- 2-PRZ-22, Safety Valve Nozzle-To-Safe End
- 2-PRZ-23, Safety Valve Nozzle-To-Safe End
- 2-PRZ-24, Safety Valve Nozzle-To-Safe End
- 2-PRZ-25, Relief Valve Nozzle-To-Safe End
- 2-PRZ-26, Surge Line Nozzle-To-Safe End
- Pressurizer Manway (Visual VT-2 only)

Inspection Results

There was no evidence of pressure boundary leakage during the bare-metal VT-2. No relevant indications were observed during the Liquid Penetrant examination.

Inspection Performed

A best effort American Society of Mechanical Engineers (ASME) Code, Section XI, Appendix VIII, Supplement 10 [Performance Demonstration Initiative (PDI)] volumetric examination was performed using focused 45 degree and 60 degree shear (S), as well as 45 degree and 60 degree refracted longitudinal (RL), wave transducers. The close proximity of nozzle bosses to the safe ends, weld contours, pipe lugs, and the prohibition by PDI from taking credit for the ultrasonic beam that passes through an austenitic weld prior to the dissimilar metal (i.e., Alloy 82/182 buttering) prevented achieving 100 percent volume coverage of the inner $\frac{1}{3}$ weld volume.

The following components were volumetrically examined and their volumetric weld coverage is also listed:

- 2-PRZ-21, Spray Valve Nozzle-To-Safe End (86.03% of inner $\frac{1}{2}$ weld volume with 45 degree S and RL transducers)
- 2-PRZ-22, Safety Valve Nozzle-To-Safe End (25.3% of inner $\frac{1}{2}$ weld volume with 45 degree S and RL transducers)
- 2-PRZ-23, Safety Valve Nozzle-To-Safe End (25.3% of inner $\frac{1}{2}$ weld volume with 45 degree S and RL transducers)
- 2-PRZ-24, Safety Valve Nozzle-To-Safe End (25.3% of inner $\frac{1}{2}$ weld volume with 45 degree S and RL transducers)
- 2-PRZ-25, Relief Valve Nozzle-To-Safe End (25.3% of inner $\frac{1}{2}$ weld volume with 45 degree S and RL transducers)
- 2-PRZ-26, Surge Line Nozzle-To-Safe End (56.0% of inner $\frac{1}{2}$ weld volume with 45 degree S and RL transducers)

Inspection Results

There were no relevant indications identified during the volumetric examination.

Inspection Performed

The upper and lower heads were visually inspected with the insulation removed.

Inspection Results

The exposed portions of the pressurizer upper and lower heads did not reveal any evidence of boric acid deposits or wastage.

Inspection Performed

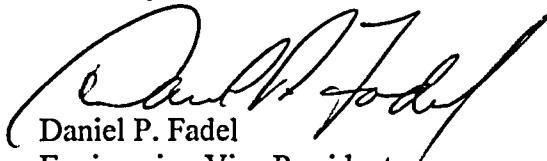
As required by the ASME Code, Section XI, a visual VT-2 examination of the entire pressurizer and its Alloy 82/182 pressurizer and steam space components was performed at the reactor coolant system normal operating pressure and temperature with the insulation installed.

Inspection Results

There was no evidence of pressure boundary leakage.

This letter contains no new commitments. Should you have any questions, please contact Mr. John A. Zwolinski, Safety Assurance Director, at (269) 466-2428.

Sincerely,



Daniel P. Fadel
Engineering Vice President

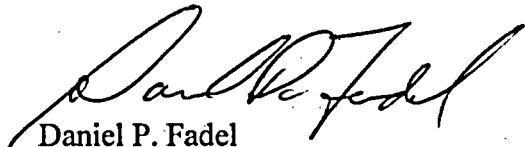
RV/rdw

c: J. L. Caldwell, NRC Region III
K. D. Curry, Ft. Wayne AEP
J. T. King, MPSC
C. F. Lyon, NRC Washington, DC
MDEQ – WHMD/HWRPS
NRC Resident Inspector

AFFIRMATION

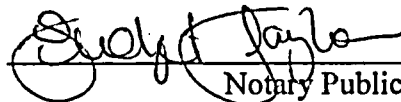
I, Daniel P. Fadel, being duly sworn, state that I am Engineering Vice President of Indiana Michigan Power Company (I&M), that I am authorized to sign and file this request with the Nuclear Regulatory Commission on behalf of I&M, and that the statements made and the matters set forth herein pertaining to I&M are true and correct to the best of my knowledge, information, and belief.

Indiana Michigan Power Company


Daniel P. Fadel
Engineering Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 6th DAY OF January, 2005



Notary Public

My Commission Expires 6/10/2007

